

U.S. Patent Application Serial No. 10/502,222
Reply to Office Action dated December 20, 2006

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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A paint for plastic or metallic materials comprising:
 - a) one or more acrylic-based resins that can undergo cross-linking solely by exposure to ultraviolet (UV) radiation;
 - b) one or more photo-initiators as sources of free radicals present in an amount ranging between 0.5 wt% and 5.0 wt%, to induce cross-linking of said acrylic resin in the presence of UV radiation;
 - c) one or more fillers;
 - d) a dispersion of waxes in solvents for orienting said fillers; and
 - e) levelling additives;

~~in which~~ wherein said acrylic-based resin comprises a urethane-acrylate oligomer in a weight percentage of between 30 wt% and 60 wt%.

2. (Previously Presented) The paint according to Claim 1, wherein said urethane-acrylate oligomer is of an aromatic type.
3. (Previously Presented) The paint according to Claim 1, wherein said urethane-acrylate oligomer is of a bifunctional type.

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4. (Previously Presented) The paint according to Claim 1, wherein the paint comprises a multifunctional acrylic monomeric reactive diluent.
5. (Previously Presented) The paint according to Claim 4, wherein said multifunctional acrylic monomeric reactive diluent is of a bifunctional type.
6. Cancelled
7. (Currently Amended) The paint according to Claim [[6]] 1, wherein said wax is an ethylene-acrylic acid (EAA) copolymer or an ethylene-vinyl-acetate (EVA) copolymer, or mixtures thereof.
8. (Currently Amended) The paint according to Claim 1, further comprising a thixotropic and anti-settling agent.
9. (Previously Presented) The paint according to Claim 8, wherein said thixotropic and anti-settling agent is silica-based.
10. (Previously Presented) The paint according to Claim 8, wherein said thixotropic and anti-settling agent is silica-based.
11. (Currently Amended) The paint according to Claim 10, wherein said pigmenting inorganic filler comprises a mica nucleus coated with an oxide layer, where the oxide is ~~these~~ chosen from among titanium dioxide, iron oxide, and mixture thereof.
12. (Currently Amended) The paint according to Claim 1, wherein the paint comprises a pigment.
13. (Previously Presented) The paint according to Claim 12, wherein said pigment is incorporated into a paste with a base of epoxy-acrylate resin and an acrylate monomer, which can undergo cross-linking by exposure to UV radiation.

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14. (Previously Presented) The paint according to Claim 1, wherein the levelling additives are silicone monomers or oligomers with acrylic functionality that can undergo cross-linking by means of UV radiation, and hydroxyfunctional silicone monomers or oligomers.
15. (Previously Presented) The paint according to Claim 1, wherein the paint comprises a mixture of two photo-initiators.
16. (Previously Presented) The paint according to Claim 15, wherein said mixture of photo-initiators is a mixture of bisacylphosphine oxide and α -hydroxyalkylphenyl ketone.
17. (Currently Amended) A method for painting plastic or metallic substrates, comprising the application of a paint according to claim 1, wherein on said substrate, said paint is cross linked by exposure to ultraviolet radiation.
18. (Currently Amended) The method according to Claim 17, wherein the application of said paint on the substrate ~~takes place by~~ comprises electrostatic spraying ~~(electrospraying)~~.
19. (Previously Presented) The method according to Claim 17, wherein in order to facilitate application by spraying of said paint, the paint is diluted with appropriate solvents mixed in the step immediately prior to application.
20. (Currently Amended) The method according to Claim 17, wherein the paint comprises the application of an electrostatic primer on the substrate to provide ~~bestow the latter~~ conductive properties to the substrate prior to the painting step.
21. (Previously Presented) The method according to Claim 17, wherein the method comprises, after the painting step, a flash-period step in which the painted substrate is heated to a temperature of between 40° and 60°C to eliminate the excess solvent present prior to UV irradiation.

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22. (Previously Presented) The method according to Claim 17, wherein said substrate is a housing for cellphones.

23. (Currently Amended) A method for painting cellphone housings comprising:

- positioning of said housings on suitable sample-holders and transfer thereof by means of a conveyor into a treatment area;
- application of an electrostatic primer on the surface of said housings to render them conductive;
- spraying of a paint according to Claim 1, for plastic or metallic materials, the paint comprising:
 - a) one or more acrylic-based resins that can undergo cross-linking by exposure to ultraviolet (UV) radiation, wherein said acrylic-based resin comprises a urethane-acrylate oligomer in a weight percentage of between 30 wt% and 60 wt%;
 - b) one or more photo-initiators as sources of free radicals present in an amount ranging between 0.5 wt% and 5.0 wt%, to induce cross-linking of said acrylic resin in the presence of UV radiation;
 - c) one or more fillers;
 - d) a dispersion of waxes in solvents for orienting said fillers; and
 - e) leveling additives;

wherein with the use of two guns oriented on the top part of said housings and of one gun oriented towards the bottom side part of said housings, said housings passing

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pass twice in front of said guns, a first time in a direction with right-spin rotation and a second time in the opposite direction with left-spin rotation;

- heating of the painted housings to a temperature of between 40-60°C to evaporate part of the solvent present in the paint; and
- irradiation by means of UV light of the painted housings to obtain cross-linking of said paint.